

ETHICAL CHALLENGES IN EPIDEMIOLOGIC STUDIES ON AIR POLLUTION AND HEALTH

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The importance of clean air for healthy life was recognised already in the Hippocratic corpus in 5th century BCE. (*On Airs, Waters, and Places*). Epidemiologic studies continue to play an important role in providing evidence about adverse effects of ambient air pollution during different periods of life on respiratory, cardiovascular, carcinogenic diseases and adverse pregnancy outcomes. These studies support air pollution regulations; although recent epidemiologic evidence suggests that air pollution levels below current standards increase health risks. Epidemiologist conducting studies may face ethical challenges at different phases from design and conduct to interpretation and reporting of results.

Typically large populations are exposed to varying levels of air pollution. Often the average increase in the risk of adverse effects is from low to moderate, but the population health impact on common diseases can be substantial. Our design features or analytical approaches may be critical in identifying susceptible groups, such as pregnant women, infants, senior citizens or individuals with chronic illnesses.

Air pollution exposure is often higher in socioeconomically deprived populations and low socioeconomic status may be related to susceptibility to adverse effect of air pollution. Choices of study design and analytical approach may either emphasize elimination of confounding due socioeconomic factors or elaboration of environmental inequity.

Production of air pollution can be linked to strong economic and political interests and therefore epidemiologists may feel pressure in publishing the results. What is the role of scientific community in supporting the epidemiologists?

Air pollution and green house gas productions are often linked, but there may be situations where alternative choices of energy production weaken green house gas emissions but strengthen ambient air pollutant emissions (e.g. gasoline or diesel engines).

This session provides a forum for identification of and discussion on ethical issues related to studies on air pollution epidemiology.